

What is claimed is:

1. A method for vocoding in an ALL IP network including one  
5 or more circuit networks, one or more radio access networks  
(RAN) and one or more packet networks, the method comprising the  
steps of:

a) determining if a first vocoding algorithm of a sending  
terminal is the same as a second vocoding algorithm of a  
10 destination terminal;

b) if the first vocoding algorithm is the same as the  
second vocoding algorithm, bypassing voice data from the sending  
terminal and transmitting the bypassed voice data to the  
destination terminal;

15 c) if the first vocoding algorithm is not the same as the  
second vocoding algorithm, determining if the sending terminal  
is a mobile terminal;

d) if the sending terminal is the mobile terminal, at a  
first radio access network (RAN) gateway coupled to the sending  
20 mobile terminal, vocoding the voice data at a data rate of the  
circuit network to thereby generate first vocoded data and  
transmitting the first vocoded data to a second RAN gateway  
coupled to a destination mobile terminal; and

e) at the second RAN gateway, vocoding the first vocoded  
25 data to be compatible with the second vocoding algorithm of the

destination mobile terminal to thereby generate second vocoded data and transmitting the second vocoded data to the destination mobile terminal.

5           2. The method as recited in claim 1, wherein the step d) further includes the step of:

          f) if the sending terminal is a terminal for the circuit network, at a circuit gateway, vocoding the voice data at data rate of the circuit network.

10           3. The method as recited in claim 1, wherein the second RAN gateway includes:

          a first vocoder storing the first vocoding algorithm therein; and

15           a second vocoder storing the second vocoding algorithm therein.

20           4. A method for vocoding in an ALL IP network including one or more circuit networks, one or more radio access networks (RAN) and one or more packet networks, the method comprising the steps of:

          a) determining if a first vocoding algorithm of a sending terminal is the same as a second vocoding algorithm of a destination terminal;

25           b) if the first vocoding algorithm is the same as the

second vocoding algorithm, bypassing voice data from the sending terminal and transmitting the bypassed voice data to the destination terminal;

c) if the first vocoding algorithm is not the same as the second vocoding algorithm, determining if the sending terminal is a mobile terminal;

d) if the sending terminal is the mobile terminal, at a first radio access network (RAN) gateway coupled to the sending mobile terminal, vocoding the voice data at a data rate of the circuit network to thereby generate first vocoded data;

e) at the first RAN gateway, vocoding the first vocoded data to be compatible with the second vocoding algorithm of the destination mobile terminal to thereby generate second vocoded data; and

f) transmitting the second vocoded data to the destination mobile terminal.

5. The method as recited in claim 4, wherein the first RAN gateway includes:

a first vocoding unit for vocoding the voice data at the data rate of the circuit network;

a first vocoder storing the first algorithm therein; and

a second vocoder storing the second algorithm therein.

6. The method as recited in claim 4, wherein the step d)

further includes the steps of:

g) if the sending terminal is the mobile terminal, transmitting the voice data to a second radio access network (RAN) gateway coupled to the destination mobile terminal;

5 h) at the second RAN gateway, vocoding the voice data at a data rate of the circuit network to thereby generate the first vocoded data;

i) at the second RAN gateway, vocoding the first vocoded data to be compatible with the second vocoding algorithm of the destination mobile terminal to thereby generate the second vocoded data; and

j) transmitting the second vocoded data to the destination mobile terminal.

15 7. The method as recited in claim 6, wherein the second RAN gateway includes:

a second vocoding unit for vocoding the voice data at the data rate of the circuit network;

a third vocoder storing the first algorithm therein; and

20 a fourth vocoder storing the second algorithm therein.

8. The method as recited in claim 4, wherein the step d) another further includes the step of:

k) if the sending terminal is a terminal for the circuit network, at a circuit gateway, vocoding the voice data at data

rate of the circuit network.

9. A computer-readable record media storing instructions for performing a method for vocoding in an ALL IP network including one or more circuit networks, one or more radio access networks (RAN) and one or more packet networks, the method comprising the steps of:

a) determining if a first vocoding algorithm of a sending terminal is the same as a second vocoding algorithm of a destination terminal;

b) if the first vocoding algorithm is the same as the second vocoding algorithm, bypassing voice data from the sending terminal and transmitting the bypassed voice data to the destination terminal;

c) if the first vocoding algorithm is not the same as the second vocoding algorithm, determining if the sending terminal is a mobile terminal;

d) if the sending terminal is the mobile terminal, at a first radio access network (RAN) gateway coupled to the sending mobile terminal, vocoding the voice data at a data rate of the circuit network to thereby generate first vocoded data and transmitting the first vocoded data to a second RAN gateway coupled to a destination mobile terminal; and

e) at the second RAN gateway, vocoding the first vocoded data to be compatible with the second vocoding algorithm of the

destination mobile terminal to thereby generate second vocoded data and transmitting the second vocoded data to the destination mobile terminal.

5           10. The computer-readable record media as recited in claim 9, wherein the step d) further includes the step of:

        f) if the sending terminal is a terminal for the circuit network, at a circuit gateway, vocoding the voice data at data rate of the circuit network.

10           11. A computer-readable record media storing instructions for performing a method for vocoding in an ALL IP network including one or more circuit networks, one or more radio access networks (RAN) and one or more packet networks, the method comprising the steps of:

15           a) determining if a first vocoding algorithm of a sending terminal is the same as a second vocoding algorithm of a destination terminal;

            b) if the first vocoding algorithm is the same as the second vocoding algorithm, bypassing voice data from the sending  
20          terminal and transmitting the bypassed voice data to the destination terminal;

            c) if the first vocoding algorithm is not the same as the second vocoding algorithm, determining if the sending terminal is a mobile terminal;

25           d) if the sending terminal is the mobile terminal, at a

first radio access network (RAN) gateway coupled to the sending mobile terminal, vocoding the voice data at a data rate of the circuit network to thereby generate first vocoded data;

e) at the first RAN gateway, vocoding the first vocoded data to be compatible with the second vocoding algorithm of the destination mobile terminal to thereby generate second vocoded data; and

f) transmitting the second vocoded data to the destination mobile terminal.

12. The computer-readable record media as recited in claim 11, wherein the step d) further includes the steps of:

g) if the sending terminal is the mobile terminal, transmitting the voice data to a second radio access network (RAN) gateway coupled to the destination mobile terminal;

h) at the second RAN gateway, vocoding the voice data at a data rate of the circuit network to thereby generate the first vocoded data;

i) at the second RAN gateway, vocoding the first vocoded data to be compatible with the second vocoding algorithm of the destination mobile terminal to thereby generate the second vocoded data; and

j) transmitting the second vocoded data to the destination mobile terminal.

13. The computer-readable record media as recited in claim 12, wherein the step d) another further includes the step of:

k) if the sending terminal is a terminal for the circuit network, at a circuit gateway, vocoding the voice data at data  
5 rate of the circuit network.